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NUMBERS OF DETAILS IN THE RECONSTRUCTION OF AN EMOTIONAL NARRATIVE DECREASE LINEARLY AS A FUNCTION OF TIME[1]

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Summary.—33 university students listened to a 5-min. ambiguous narrative about a young boy (The Billy Story) while another 33 students did not. At the end of the final examination for the course the students were promised a 2% bonus mark if they could reconstruct the details of the story. Whereas only one student who heard the story could not recall any details, 30% of the students ($n=9$) who never heard the story generated a false one. The numbers of accurate details recalled by those who heard the story decreased linearly with the time (5 through 30 days). Five times the numbers of the women than men who heard the story attributed the young boy's anomalous experience to sexual abuse.

Although traditional studies of retention have employed unrelated items such as nonsense syllables or a series of words, the reconstruction of ecologically valid experiences often involves long sequences of syntactically complex material having both categorical and emotional meaning. We have been investigating the factors that influence various forms of the reconstruction of the Billy Story (Dittburner & Persinger, 1993), which is a 5-min. complex and ambiguous narrative of a small boy who experiences an intense and unusual nocturnal phenomenon (which was actually the subjective experiences accompanying a right hemispheric limbic seizure). The following experiment involved the extension of a procedure that measured the numbers of accurate details within a handwritten reconstruction as a function of the time (in days) since listening to the story and the attribution of the cause of the boy's unusual experience.

A total of 66 first-year university students (28 men, 38 women), between the ages of 19 and 24 years, from an Introduction to Psychology class served as subjects. All subjects had volunteered for an experiment. Thirty-three (15 men, 18 women) were assigned to "a relaxation study." On the day of the experiment these subjects listened to the 5-min. narrative[2] presented by tape. Each subject listened to this tape while sitting within a comfortable chair housed within an acoustic chamber. About 20 min. later these subjects were told to recall the story orally. The subjects were also told that the experiment was finished before they left the area.

At the end of the final examination for the course, which was given 30 days after the first subject and 5 days after the last subject listened to the story, all students were requested "to write all of the details of the Billy Story that had been presented recently" and to explain what happened to Billy. They were told each person would receive a 2% bonus mark on the final examination if the student could supply this information (all students ultimately received the 2% regardless of the amount of information). We reasoned that the context of an examination and the marks would enhance motivation and simulate clinical and legal settings.

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[2]The narrative is on file in Document NAPS-05058. Remit $10.75 for photocopy or $5.00 for fiche to the National Auxiliary Publications Service, c/o Microfiche Publications, POB 3513, Grand Central Station, New York, NY 10168.

Of the 33 students who never heard the Billy Story, 30% ($n=9$) actually wrote stories that involved a character named Billy but the details were not related to the original story. Seven of those stories referred to aggressive or deviant themes about this imaginary Billy. The numbers of ideas contained within the narratives of the subjects who had heard the story were checked in a manner similar to scoring the "short stories" for the Wechsler Memory Scale from the possible 257 ideas in the story. The mean and standard deviation for total number of ideas were 28.4 and 14.6, respectively.

To discern approximation to linearity, the time since listening to the story was divided into five successive 5-day periods. The numbers of subjects per increment and the means and the standard deviations for the numbers of details for these five latencies are shown in Table 1. One-way analysis of variance demonstrated a statistically significant difference ($F_{4,28}=6.03$, $p<.001$) between the time intervals. Polynomial analysis (ONEWAY) indicate the change over time was linear ($F_{1,28}=18.97$, $p<.001$) and did not deviate significantly from a linear trend. A Kruskal-Wallis test, completed because heterogeneity of variance indicated by Bartlett's Box = 2.91 ($p<.05$) between the groups (latencies), was still statistically significant ($\chi^2=14.93$, $p<.01$). The Pearson rs for the total numbers of ideas and the square root of the numbers of ideas were −.49 and −.54 ($p<.01$), respectively. Analysis of variance for each of these measures as a function of latency of reconstruction and sex reiterated the latency effects but gave no statistically significant effects for sex ($F_{1,23}$, $p<1.00$) or interactions ($F_{4,23}$, $p<1.50$) between sex and latency.

TABLE 1

NUMBERS OF SUBJECTS AND MEANS AND STANDARD DEVIATIONS FOR NUMBERS OF IDEAS RECONSTRUCTED AS A FUNCTION OF BLOCKS OF TIME IN DAYS AFTER LISTENING TO A 5-MIN. NARRATIVE

Delay in Days	*n*	*M*	*SD*
6 through 10	7	39.6	14.6
11 through 15	4	35.8	14.0
16 through 20	6	22.3	2.7
21 through 25	10	30.7	12.6
26 through 30	6	9.4	6.8

For the students who heard the story, their attributions for the cause of Billy's experiences were divided into four categories of sexual abuse, alien abduction, a dream, or "don't know." The categories were not prompted, were derived from the themes of the explanations, and were quite explicit. Analysis ($\chi_3^2=9.91$) indicated a statistically significant discrepancy ($p=.01$) between sexes for the attributions or causes of Billy's experiences. As can be seen in Table 2, five times more women than men attributed the experience to sexual abuse. The effect was still significant ($\chi_2^2=7.60$, $p=.02$; $phi=.58$) when the "don't know" group was removed from the analysis. There was no statistically significant difference among the four groups who attributed explanations with respect to numbers of ideas that were reconstructed ($F_{3,29}=1.20$, $p>.05$).

These results indicated that following the 5-day period after listening to a narrative, the numbers of accurate ideas reconstructed decreased linearly over the next 25 days from about 15% to about 3% of the total ideas within the narrative. For comparison, about 29% ($SD=8\%$) of the ideas for this narrative were reconstructed 30 min. after presentation. Although the sample was small, five times the numbers of women attributed the boy's experiences (which were actually a nocturnal limbic seizure) to sexual abuse. Only men attributed the cause to alien "visitations." We suggest that this sex difference is consistent with intrinsic differences in beliefs between men and women (Persinger & Richards, 1991) regarding personal (sexual) vs external (territorial) explanations for ambiguities (MacLean, 1990).

TABLE 2

NUMBERS OF MEN AND WOMEN WHO ATTRIBUTED BILLY'S EXPERIENCES TO SPECIFIC SOURCES DURING RECONSTRUCTION OF NARRATIVE 5 TO 30 DAYS LATER

Source	Numbers of Men	Numbers of Women
Sexual Abuse	2	10
Alien Visitation	3	0
A Dream	4	4
"Don't Know"	7	3

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